WHAT IS CLAIMED IS:

1. A liquid crystal display element comprising a reflection substrate, a transparent substrate and a liquid crystal layer interposed between said two substrates, wherein a plurality of pixels and active elements for driving the liquid crystal at the plurality of pixels, are incorporated to at lease one of the two substrate, characterized in that an optical axis of an incident light beam upon the liquid crystal layer is present in a plane which is substantially perpendicular to a direction of orientation of liquid crystal molecules on at least one of the two substrates, and the incident light impinges upon the liquid crystal layer in a direction which is inclined by a predetermined angle to the direction of the normal line of the substrate.

2. A liquid crystal display element as set forth in claim 1, characterized in that a direction of polarization of the incident light beam upon the liquid crystal layer is substantially perpendicular or parallel to the direction of the orientation of the liquid crystal molecules.

3. A liquid crystal display element as set forth in claim 2, characterized in that the orientation of the liquid crystal molecules in the liquid crystal layer is homogeneous.

4. A liquid crystal display element as set forth in claim 2, characterized in that the orientation of

the liquid crystal molecules in the liquid crystal layer is homeotropic.

5. A liquid crystal display element as set forth in claim 3, characterized in that an angle between an optical axis of an optical path in the liquid crystal layer and the direction of the normal line of the substrate is set to be larger than a total reflection angle upon emanation of the light beam from the substrate into the air.

6. A liquid crystal display element as set forth in claim 4, characterized in that an angle between an optical axis of an optical path in the liquid crystal layer and the direction of the normal line of the substrate is set to be larger than a total reflection angle upon emanation of the light beam from the substrate into the air.

7. A liquid crystal display element as set forth in claim 3, characterized in that an angle between an optical axis of an optical path in the liquid crystal layer and the direction of the normal line of the substrate is set to be not less than a Brewster angle between the substrate and the air.

8. A liquid crystal display element as set forth in claim 4, characterized in that an angle between an optical axis of an optical path in the liquid crystal layer and the direction of the normal line of the substrate is set to be not less than a Brewster angle between the substrate and the air.

9. A liquid crystal display element as set forth in claim 3, further comprising a hologram element for the pixels, characterized in that the hologram element is configured so that a p-polarized light beam is not substantially diffracted, but an s-polarized light beam which is generated after it is modulated by the liquid crystal layer is diffracted to a direction which is substantially perpendicular to the liquid crystal element.

10. A liquid crystal display element as set forth in claim 4, further comprising a hologram element for the pixels, characterized in that the hologram element is configured so that a p-polarized light beam is not substantially diffracted, but an s-polarized light beam which is generated after it is modulated by the liquid crystal layer is diffracted to a direction which is substantially perpendicular to the liquid crystal element.

11. A liquid crystal display element as set forth in claim 3, characterized in that diffraction grating is provided for the pixels, an s-polarized light beam which is generated after it is modulated by the liquid crystal layer is diffracted to a direction which is substantially perpendicular to the liquid crystal element.

12. A liquid crystal display element as set forth in claim 4, characterized in that diffraction grating is provided for the pixels, an s-polarized light beam

which is generated after it is modulated by the liquid crystal layer is diffracted to a direction which is substantially perpendicular to the liquid crystal element.

13. A liquid crystal display element as set forth in claim 2, characterized in that the liquid crystal layer is driven by an electric field component which is mainly parallel to the substrate,

switching is made between directions of orientation of the liquid crystal molecules in two states,

the optical axis of the incident light beam upon the liquid crystal layer is present in a plane which is substantially perpendicular to one of the directions of the orientation of the liquid crystal molecules in the two states; and the incident light beam impinges upon the liquid crystal layer in a direction which is inclined by an predetermined angle to the direction of the normal line of the substrate.

14. A liquid display element as set forth in claim 2, characterized in that a ferroelectric liquid crystal material is used as a liquid crystal material from which the liquid crystal layer is formed,

switching is made between directions of orientation of the liquid crystal molecules in two states,

the optical axis of the incident light beam onto the liquid crystal layer is present in a plane

which is substantially perpendicular to one of the directions of the orientation of the liquid crystal molecules in the two states; and the incident light beam impinges upon the liquid crystal layer in a direction which is inclined by an predetermined angle to the direction of the normal line of the substrate.

15. A liquid display element as set forth in claim 2, characterized in that an antiferroelectric liquid crystal material is used as a liquid crystal material from which the liquid crystal layer is formed,

switching is made between directions of orientation of the liquid crystal molecules in two states,

the optical axis of the incident light beam onto the liquid crystal layer is present in a plane which is substantially perpendicular to one of the directions of the orientation of the liquid crystal molecules in the two states; and the incident light beam impinges upon the liquid crystal layer in a direction which is inclined by an predetermined angle to the direction of the normal line of the substrate.

16. A liquid crystal display element comprising two transparent substrates and a liquid crystal layer interposed between said two substrates, wherein a plurality of pixels and active elements for driving the liquid crystal at the plurality of pixels, are incorporated to at lease one of the two substrate, characterized in that an optical axis of an incident light beam upon the liquid crystal layer is present in

a plane which is substantially perpendicular to a direction of orientation of liquid crystal molecules on at least one of the two substrates, and the incident light impinges upon the liquid crystal layer in a direction which is inclined by a predetermined angle to the direction of the normal line of the substrate.

17. A liquid crystal display element as set forth in claim 16, characterized in that a direction of polarization of the incident light beam upon the liquid crystal layer is substantially perpendicular or parallel to the direction of the orientation of the liquid crystal molecules.

18. A liquid crystal display element as set forth in claim 17, characterized in that the orientation of the liquid crystal molecules in the liquid crystal layer is homogeneous.

19. A liquid crystal display element as set forth in claim 17, characterized in that the orientation of the liquid crystal molecules in the liquid crystal layer is homeotropic.

20. A liquid crystal display element as set forth in claim 18, characterized in that an angle between an optical axis of an optical path in the liquid crystal layer and the direction of the normal line of the substrate is set to be larger than a total reflection angle upon emanation of the light beam from the substrate into the air.

21. A liquid crystal display element as set forth

in claim 19, characterized in that an angle between an optical axis of an optical path in the liquid crystal layer and the direction of the normal line of the substrate is set to be larger than a total reflection angle upon emanation of the light beam from the substrate into the air.

22. A liquid crystal display element as set forth in claim 18, characterized in that an angle between an optical axis of an optical path in the liquid crystal layer and the direction of the normal line of the substrate is set to be not less than a Brewster angle between the substrate and the air.

23. A liquid crystal display element as set forth in claim 19, characterized in that an angle between an optical axis of an optical path in the liquid crystal layer and the direction of the normal line of the substrate is set to be not less than a Brewster angle between the substrate and the air.

24. A liquid crystal display element as set forth in claim 18, further comprising a hologram element for the pixels, characterized in that the hologram element is configured so that a p-polarized light beam is not substantially diffracted, but an s-polarized light beam which is generated after it is modulated by the liquid crystal layer is diffracted to a direction which is substantially perpendicular to the liquid crystal element.

25. A liquid crystal display element as set forth

in claim 19, further comprising a hologram element for the pixels, characterized in that the hologram element is configured so that a p-polarized light beam is not substantially diffracted, but an s-polarized light beam which is generated after it is modulated by the liquid crystal layer is diffracted to a direction which is substantially perpendicular to the liquid crystal element.

26. A liquid crystal display element as set forth in claim 18, characterized in that diffraction grating is provided for the pixels, an s-polarized light beam which is generated after it is modulated by the liquid crystal layer is diffracted to a direction which is substantially perpendicular to the liquid crystal element.

27. A liquid crystal display element as set forth in claim 19, characterized in that diffraction grating is provided for the pixels, an s-polarized light beam which is generated after it is modulated by the liquid crystal layer is diffracted to a direction which is substantially perpendicular to the liquid crystal element.

28. A liquid crystal display element as set forth in claim 18, further comprising hologram elements before and after the liquid crystal layer,

the incident side hologram element diffract an incident light beam which impinges upon the substrate in a direction which is substantially

perpendicular to the substrate so as to allow the incident light beam to impinges upon the liquid crystal layer,

meanwhile the emergent side hologram element diffracts an emergent light beam from the liquid crystal layer into a direction which is substantially perpendicular to the substrate,

the incident side hologram element diffracts the polarizee incident light; and

the emergent side hologram element diffracts the emergent light beam having a polarization which is orthogonal to the polarization of the incident light beam.

29. A liquid crystal display element as set forth in claim 19, further comprising hologram elements before and after the liquid crystal layer,

the incident side hologram element diffract an incident light beam which impinges upon the substrate in a direction which is substantially perpendicular to the substrate so as to allow the incident light beam to impinges upon the liquid crystal layer,

meanwhile the emergent side hologram element diffracts the emergent light beam from the liquid crystal layer into a direction which is substantially perpendicular to the substrate,

the incident side hologram element diffracts the polarized incident light beam; and

the emergent side hologram diffracts the

emergent light beam having a polarization which is orthogonal to the polarization of the incident light beam.

30. A liquid crystal display element as set forth in claim 18, characterized in that the liquid crystal layer is driven by an electric field component which is mainly parallel to the substrate,

switching is made between directions of orientation of the liquid crystal molecules in two states,

the optical axis of the incident light beam onto the liquid crystal layer is present in a plane which is substantially perpendicular to one of the directions of the orientation of the liquid crystal molecules in the two states; and the incident light beam impinges upon the liquid crystal layer in a direction which is inclined by an predetermined angle to the direction of the normal line of the substrate.

31. A liquid crystal display element as set forth in claim 19, characterized in that the liquid crystal layer is driven by an electric field component which is mainly parallel to the substrate,

switching is made between directions of orientation of the liquid crystal molecules in two states,

the optical axis of the incident light beam upon the liquid crystal layer is present in a plane which is substantially perpendicular to one of the

directions of the orientation of the liquid crystal molecules in the two states; and the incident light beam impinges upon the liquid crystal layer in a direction which is inclined by an predetermined angle to the direction of the normal line of the substrate.

32. A liquid display element as set forth in claim 17, characterized in that a ferroelectric liquid crystal material is used as a liquid crystal material from which the liquid crystal layer is formed,

switching is made between directions of orientation of the liquid crystal molecules in two states,

the optical axis of the incident light beam onto the liquid crystal layer is present in a plane which is substantially perpendicular to one of the directions of the orientation of the liquid crystal molecules in the two states; and the incident light beam impinges upon the liquid crystal layer in a direction which is inclined by an predetermined angle to the direction of the normal line of the substrate.

33. A liquid display element as set forth in claim 17, characterized in that an antiferroelectric liquid crystal material is used as a liquid crystal material from which the liquid crystal layer is formed,

switching is made between directions of orientation of the liquid crystal molecules in two states,

the optical axis of the incident light beam

onto the liquid crystal layer is present in a plane which is substantially perpendicular to one of the directions of the orientation of the liquid crystal molecules in the two states; and the incident light beam impinges upon the liquid crystal layer in a direction which is inclined by an predetermined angle to the direction of the normal line of the substrate.

34. A display unit characterized by a light source, a color separation optical system for monochromatically separating a white light beam from the optical source, and liquid crystal display elements as set forth in claim 1, corresponding respectively to three primary colors, and characterized in that three primary color beams which are monochromatically separated by the color separation optical system are incident upon the respective liquid crystal display elements, in directions oblique to the liquid crystal display elements,

there are provided a chromatically synthesizing emergent light beams emanating from the liquid crystal display elements, and a projection lens for projecting a light beam which is chromatically synthesized by the chromatically synthesizing optical system.

35. A display unit characterized by a light source, a color separation optical system for monochromatically separating a white light beam from the optical source, and liquid crystal display elements

as set forth in claim 16, corresponding respectively to three primary colors, and characterized in that three primary color beams which are monochromatically separated by the color separation optical system are incident upon the respective liquid crystal display elements, in directions oblique to the liquid crystal display elements,

there are provided a chromatically synthesizing emergent light beams emanating from the liquid crystal display elements, and a projection lens for projecting a light beam which is chromatically synthesized by the chromatically synthesizing optical system.

36. A display unit as set forth in claim 33, characterized in that the optical axis of the light source and the optical axis of the projection lens are laid at different levels, being parallel to each other or being twisted to one another by an angle of about 90 deg., and optical prisms which can change the optical axes are arranged on optical paths of the color separation optical system and the liquid crystal display elements.

37. A display unit as set forth in claim 34, characterized in that the optical axis of the light source and the optical axis of the projection lens are laid at different levels, being parallel to each other or being twisted to one another by an angle of about 90 deg., and optical prisms which can change the optical

axes are arranged on optical paths of the color separation optical system and the liquid crystal display elements.